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Assessing the Allocation of Aid:
Developmental Concerns and
the Self-Interest of Donors

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Abstract

In this paper, we perform a Tobit analysis of aid allocation, covering the period 1999-2002 and accounting for both altruistic and selfish donor motives. It turns out that poorer countries get clearly more aid from both bilateral and multilateral donors. Most donors are also found to direct significantly more aid to well-governed recipients if governance is measured by the World Bank's Country Policy and Institutional Assessment (CPIA). If the CPIA is replaced by the Kaufmann index on institutional conditions in recipient countries, however, the policy orientation of aid becomes extremely weak. In contrast to a recent paper by Dollar and Levin, our estimates do not suggest that multilateral aid is more poverty- and policy-oriented than bilateral aid. Post-conflict resolution emerges as a significant determinant of aid allocation in 2002. The importance of selfish aid motives clearly differs between bilateral and multilateral donors. In particular, the export-related self-interest of donor countries provided a fairly strong incentive to grant bilateral aid, as did colonial ties.

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I. INTRODUCTION

The fight against absolute poverty and widening income disparities between the poorest and the richest countries figures prominently in both the academic and political debate. Recent reports, notably UNDP (2005), argue that a substantial increase of official development aid would help considerably in making progress in this regard. At the same time, the effectiveness of aid could be improved by an appropriate targeting of aid. This raises the question of whether donors have increasingly directed aid to needy and deserving recipients, i.e., developing countries that are particularly poor and have reasonable local conditions in place for aid having the desired effect of reducing poverty and stimulating income growth.

Dollar and Levin (2004) have made a strong point that the allocation of aid has recently become much more efficient as donors increasingly adhere to the principle of selectivity. The short review of the literature in Section II points to several unsettled questions, however. Most importantly, the allocation of aid can only be assessed appropriately if both developmental concerns and selfish donor motivations are taken into account.

Therefore, we perform a regression analysis that includes altruistic and selfish determinants of aid, employing a Tobit model, presented in Section III, to account for the censored nature of the aid variable. We compare the allocative

behavior of all bilateral donors with that of multilateral donors to evaluate the widespread view that the latter are superior donors due to a stronger orientation to poverty concerns and local conditions for aid being effective. In addition, we assess nine major bilateral donors individually to account for differences with regard to the relative importance of selfish and altruistic motivations of aid. The empirical results are presented in Section IV. Section V concludes and proposes some avenues for future research.

II. WHERE DO WE STAND?

Industrialized countries may grant aid to developing countries for a variety of reasons. On the one hand, donors may be concerned about humanitarian needs in recipient countries and, thus, help foster the recipients' economic development. On the other hand, donors may pursue selfish motivations. Aid may be used to support the *donor's* economy, notably through promoting exports of the donor country to the recipient country. Furthermore, the allocation of aid may be shaped by former colonial ties and current strategic and political interests of donors.

According to earlier empirical studies, selfish motivations of donors have traditionally played an important role in the allocation of aid. Schraeder et al. (1998: 319) "clearly reject the rhetorical statements of policymakers within the industrialized North who publicly assert that foreign aid is an altruistic tool of

foreign policy." Alesina and Dollar (2000) found that bilateral aid was dictated as much by political and strategic considerations as by the economic needs and policy performance of the recipients. Collier and Dollar (2002) concluded that the actual allocation of aid was radically different from the poverty-efficient allocation. Alesina and Weder (2002) rejected the rhetoric of donors that aid rewarded efficient and honest governments. McGillivray (2003: 7) summarized the evidence available from earlier studies as follows: "Developmental or humanitarian concerns, including the reduction of poverty, receive a relatively low or even zero weight."

However, these findings may no longer apply. Bilateral and multilateral donors claim to have adjusted their aid allocation in order to take recent academic insights into account. Influential contributions to the debate on foreign aid have shown that its effectiveness could be greatly improved if aid was directed primarily to poor countries pursuing development-friendly economic policies (World Bank 1998; Burnside and Dollar 2000; Collier and Dollar 2001). Isenman and Ehrenpreis (2003) as well as Collier and Hoeffler (2004) argue that aid could also be effective under conditions of post-conflict reconstruction. Such insights are underlying the so-called Millennium Challenge Account of the United States, according to which good governance and market-friendly economic policies are required for developing countries to receive US aid (Clemens and Radelet 2003). OECD representatives reckon: "After the cold war, donors have given more emphasis to development criteria than previously,

including selectivity according to both poverty needs and policy performance" (Isenman and Ehrenpreis 2003: 10). McGillivray (2003) refers to a recent survey of ten donors to make the point that developmental criteria have received higher priority in aid allocation. Multilateral institutions, in particular, are said to have a clearer developmental focus. The World Bank (2002: 69) contends that the allocation of its aid "has improved dramatically in recent years."

Nevertheless, there is reason to be sceptical whether fine words have been translated into noble deeds. Langhammer (2004) considers it naïve that aid granted for strategic reasons has become an issue of the past, especially after September 11, 2001. The descriptive statistics and bivariate correlations presented by Nunnenkamp et al. (2004) do not support the view that the targeting of aid has improved significantly. Most donors did provide more aid to relatively poor countries, but so far the fight against poverty does not appear to have resulted in a stronger focus on recipient countries with particularly high incidence of absolute poverty. According to Nunnenkamp et al. (2004), many donors also failed to direct aid predominantly to where local conditions were conducive to a productive use of inflows. The response of donors to changing institutional and policy conditions in recipient countries is shown to be fairly weak.

Some recent studies, applying multivariate econometric techniques to account for various determinants of aid, portray a more favorable picture of the allocation of aid:

- Neumayer (2005) analyses the allocation of food aid by the three most important donors and non-governmental organizations in the 1990s. He shows that neither export and military-strategic interests of donors nor former colonial ties with recipients had an impact on food aid. As noted by the author, his findings differ strikingly from previous results relating to overall aid. This contrast may be because food aid is peculiar in that it is more oriented to recipient need than other forms of foreign aid.[1]

- Based on an extremely rich dataset, Berthélemy and Tichit (2004) perform a three-dimensional panel analysis covering 22 donors and 137 recipients over the period 1980-1999. Major findings are: (i) Aid commitments per capita of the recipients' population were higher for recipients at a lower income level, which proxies the need for aid. (ii) Most donors rewarded good economic policy outcomes in the 1990s and paid great attention to good governance in recipient countries. (iii) The end of the cold war has reduced the bias of aid towards former colonies, whereas donors have increasingly favored trade partners. Using the same dataset, Berthélemy (2005) stresses that aid

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[1] Note that food aid accounted for just about 3 per cent of overall aid in 1998.

allocation differs considerably across bilateral donors. Switzerland, Ireland, Denmark and Norway turn out to be most altruistic, whereas the United Kingdom, Italy, France and Australia are considered "selfish" donors.

- Dollar and Levin (2004) estimate a regression equation across aid recipients for each of some 40 bilateral and multilateral donors, on the basis of which they construct a poverty selectivity index as well as a policy selectivity index. These authors use gross disbursements of aid, net of emergency aid, as the dependent variable. The main finding is that the same group of donors that is very poverty focused is also very policy focused. This group includes the International Development Association (IDA), Denmark, the United Kingdom, Norway and the Netherlands. Policy selectivity is shown to have increased significantly between the periods 1984-1989 and 1995-1999. However, "overall bilateral aid is not very selective" (Dollar and Levin 2004: 14) as some quantitatively important donors, notably France and the United States, are neither poverty focused nor policy focused.

The studies by Berthélemy and Tichit as well as Dollar and Levin provide important benchmarks against which to compare the approach and findings of this paper. This is also because these studies give rise to a number of questions and suffer from several shortcomings which we would like to address. As concerns the dependent variable, Dollar and Levin net out emergency relief on the plausible premise that this type of aid would not necessarily adhere to

selectivity concerns. However, the approach taken by these authors cannot account for negative net disbursements of aid and treats the large number of zero observations arbitrarily. As noted by Roodman (2004), the log-linear regression model ignores that the distribution of aid disbursements is truncated and, thus, may lead to biased estimates.

The analysis of Dollar and Levin is also flawed in that it does not consider variables that may capture the self interest of donors. For example, the favorable assessment of the United Kingdom as a strongly poverty and policy focused donor is in striking contrast to Berthélemy and Tichit, who classify the United Kingdom as "selfish". This difference may be due to the neglect of bilateral trade relations and colonial heritage as independent variables by Dollar and Levin.

Berthélemy and Tichit do account for the truncated nature of the dependent aid variable as well as for the trade interests of donors. It remains open to question, however, why the authors apply the ratio of the donor's *exports plus imports* to GDP. It would be more appropriate to consider only the donor's exports since export promotion seems to be the motive underlying tied aid. More importantly, the policy outcome variables used by Berthélemy and Tichit to reveal the policy

orientation of aid allocation are highly problematic.[2] Annual GDP growth of the recipient country reflects not only the local policy framework, but may also be shaped by external factors beyond the control of policymakers. Furthermore, it is unlikely that the simultaneity problem, resulting from possible growth effects of aid, can be overcome by a one-period lag. Other variables such as infant mortality and primary school enrolment capture the recipients' need for aid, rather than the quality of local policies.[3] Similarly, the attractiveness of recipient countries for foreign direct investment is more likely to reveal that a country is relatively advanced and, thus, less dependent on aid.[4]

Berthélemy and Tichit (2004) as well as Berthélemy (2005) state that they tried the policy variables considered by Burnside and Dollar (2000) to indicate under which conditions aid is likely to be effective in stimulating growth. It is mainly because these variables, including the rate of inflation, government budget deficits and openness to trade, proved insignificant in shaping the allocative behavior of donors why Berthélemy and Tichit turn to the aforementioned "outcome variables". This procedure implies that the insignificance of policy

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[2] The same applies to Berthélemy (2005), who uses essentially the same variables to assess the quality of the policy framework in recipient countries.

[3] See Kanbur (2004), who argues that, in order to assess policy outcomes, the *change* in variables such as infant mortality and literacy, rather than their *level*, should be considered.

[4] Foreign direct investment in developing countries tends to be concentrated in relatively advanced countries.

variables does not offer any relevant insights. Actually, however, the insignificant results may be a strong indication that aid donors were less policy oriented than suggested by the authors. The regression analysis to which we turn now attempts to solve this puzzle by applying different measures of the institutional and policy environment prevailing in aid recipient countries.

III. DATA AND METHODOLOGY

1. Definition of Variables

We choose total net Official Development Assistance (ODA) disbursements as compiled by the OECD's Development Assistance Committee (DAC) to be our dependent variable, and follow Dollar and Levin (2004) in netting out emergency relief.[5] The main advantage of looking at disbursements rather than commitments is that they more accurately reflect the resource transfers actually taking place.[6] Those who prefer to work with commitments tend to argue that commitments constitute the only variable over which donors exert full control if for some reason recipients lack the willingness or administrative capacity to

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[5]   The only exception is IDA, for which the DAC does not report emergency relief. See Appendix for definition and sources of variables.

[6]   In principle, the so-called Effective Development Assistance (Chang et al. 1998) provides an even better measure of the resource flows than ODA. The EDA calculates the grant equivalent value of loans rather than counting them at face value as soon as the grant element exceeds 25 per cent. However, EDA data are only available at the aggregate bilateral and multilateral level and thus will not be used here.

request committed resources. The existing controversy notwithstanding, estimations are unlikely to be affected much by the choice of either commitments or disbursements as the two are highly correlated (Neumayer 2003). Opting for total aid instead of aid per capita appears to be justified as donors are more likely to allocate a fixed overall amount of money on a country basis than on a per-capita basis (McGillivray and Oczkowski 1992).

With regard to the set of explanatory variables to be considered, we assume in accordance with most of the recent literature (e.g., Alesina and Dollar 2000; Berthélemy and Tichit 2004; Neumayer 2003) that donors are neither entirely selfish nor entirely altruistic. Hence, we account for both donor interest and recipient need. Bilateral exports of donors to recipients, expressed as a percentage of total donor exports, serve as a proxy of donors' commercial self-interest. When aid is tied, a simultaneity bias might arise as more tied aid will lead to more imports from the respective donor. This problem is mitigated by taking values of the trade variable that are lagged one year. To examine further whether large shareholders might be able to push through their trade interests in multilateral aid institutions, we also construct a specific trade variable for the multilateral regressions that is defined as the sum of exports from the nine most important bilateral donors to each recipient, divided by total exports of the nine donors.

Donors' political and strategic interest is represented by colonial dummies that enter the bilateral aid regressions for France, the Netherlands, and the United Kingdom, plus a dummy that reflects the special relationships of the United States with Egypt and Israel.[7] Analogous to the case of trade, we allow for the possibility that colonial powers influence multilateral aid allocation in favor of their former colonies, by specifying a colonial dummy that is set equal to "one" for all recipients that were former colonies of Belgium, France, the Netherlands or the United Kingdom.

The findings of the aid effectiveness literature cited above suggest that poverty, good governance and post-conflict situations are key factors that donors may take into account if their objective is to foster economic development in recipient countries. The most straightforward indicator of humanitarian need is per-capita income, measured as GDP per capita in purchasing power parities, which is also adopted here. A direct measure of poverty might be more closely related to humanitarian need, but poverty indicators are much less readily available and not easily comparable across countries and over time, even though the World Bank has made great strides in this respect by devising the well-known one-Dollar-a-day poverty headcount.

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[7] We would like to thank Jean-Claude Berthélemy for sharing with us his data on former colonies.

Among the various available governance indicators, we opt for the World Bank's Country Policy and Institutional Assessment (CPIA), because this is the indicator that has figured most prominently in recent discussions about aid allocation, particularly in the World Bank itself, but arguably also in major donor countries such as the United States. The main drawback of this choice is that the World Bank does not provide comprehensive information on the CPIA.[8] A full classification of more than 100 countries into five CPIA categories ranging from very good to very poor is only available for one year (Collier and Dollar 2001). For a comparison over the period 1999-2002, we have to rely on a classification of IDA eligible countries by quintiles, with a "one" assigned to countries with least favorable policies and a "five" to those with most favorable policies. Given this limitation, we conduct a sensitivity analysis employing the so-called Kaufmann index, another comprehensive governance indicator (Kaufmann et al. 2003). Since the Kaufmann index is known to be highly correlated with GDP per capita, which may give rise to multicollinearity problems, we first regress GDP per capita on the index and then include the estimated residuals in the aid regressions.

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[8]   A more fundamental critique of the CPIA and, for that matter, of any policy-based indicator is provided by Kanbur (2004). He argues that country assessments should focus more strongly on outcome variables such as reductions in infant mortality, given that the link between policies and outcomes is far from obvious. However, Kanbur's critique has to be interpreted as a normative statement regarding the future allocation of aid and barely touches on the question of past aid allocation raised here.

To investigate whether aid is higher than usual in case of post-conflict reconstruction needs, we construct a dummy variable that is set equal to "one" if according to the World Bank Post Conflict Fund (PCF) database a country received PCF grants in a particular year.

Finally, in addition to the variables representing donor interest and recipient need, we also control for the population of the recipient country, expecting that in absolute terms aid increases with country size, even though it may fall in per-capita terms and thus exhibit a small-country bias.

2. Estimation Method

The statistical analysis of aid allocation is affected by the truncated nature of the aid variable. This is particularly true for smaller donors such as Denmark or Norway, which tend to concentrate their aid on a few recipients. With many "zero" observations, OLS estimates such as those presented by Dollar and Levin (2004) tend to be biased as they do not account for the non-linearity in the relationship that is estimated. Three different approaches to deal with this issue have been suggested in the literature (Neumayer 2003; Berthélemy and Tichit 2004).

The first approach is a two-part model, where the first step involves a Probit estimation that determines the probability of receiving aid (selection equation), and the second step an OLS estimation that determines the amounts of aid for

the sub-sample of positive aid observations (allocation equation). Formally, aid to recipient *i* is defined as:

$$\Pr(aid_i > 0) = F(aY_i + u_i)$$
$$aid_i = bZ_i + v_i,$$

where *F(.)* denotes the cumulative distribution function, *Y* and *Z* are explanatory variables for the selection and allocation equation, *a* and *b* the respective vectors of coefficients, and *u* and *v* independent and normally distributed error terms.

The crucial assumption underlying this approach is that the choice of the recipient and the amount of aid allocated are independent from each other (*u* and *v* are not correlated). If this assumption does not hold, which appears to be highly plausible, the regression in the second step suffers from a selection bias.

The second approach is the sample selection or Heckman model, which resembles the two-part model, except that *u* and *v* are not assumed to be independent. Again, a Probit estimation is performed in the first step. In the second step, the so-called inverse Mill's ratio from the first step is added to the set of explanatory variables in order to correct for the selection bias. One then obtains:

$$\Pr(aid_i > 0) = F(aY_i + u_i)$$
$$aid_i = bZ_i + \rho \sigma f(aY_i + u_i)/F(aY_i + u_i) + v_i,$$

where ρ stands for cov(u,v), σ for var(v), and $f(.)/F(.)$ for the inverse Mill's ratio.

The third approach is the Tobit model, which estimates aid allocation in one step, taking the truncated nature of the aid variable directly into account. Aid to a specific recipient is specified as the maximum of zero and a linear combination of the explanatory variables so as to guarantee that predicted aid flows cannot become negative:

$$aid_i = \max(bZ_i + v_i, 0).$$

The main difference compared to the Heckman model is that the variables are restricted to have an identical impact on aid eligibility and the amount of aid given so that the more general specification might be regarded as superior.[9] The Heckman procedure, however, suffers from its own problems: If the same set of explanatory variables is employed in both equations, estimates risk to become unreliable due to severe multicollinearity problems. Since it is very difficult to find appropriate exclusion variables for the first step of the Heckman procedure, we follow Berthélemy and Tichit (2004) and adopt the Tobit model for our regression analysis.

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[9] Note that the Tobit model can be derived as a special case of the Heckman procedure with coefficients, variables and residuals that are the same in the selection and allocation equation.

IV. EMPIRICAL RESULTS

The subsequent analysis proceeds in two major steps. First, we compare the allocative behavior of all bilateral donors taken together with that of multilateral aid agencies. In this way, it can be assessed whether the latter are more poverty and policy oriented than presumably more self-interested bilateral donors. Second, we run estimates for nine major bilateral donors individually. These are: Denmark, France, Germany, Japan, the Netherlands, Norway, Sweden, the United Kingdom, and the United States. This group accounted for 83 per cent of total bilateral aid in 2002. The allocative behavior is expected to differ between these bilateral donors, e.g., with regard to the relative importance of selfish and altruistic motivations of aid. In both steps of our analysis, we focus on the most recent past. Depending on data availability, the starting point is 1998 or 1999. Hence, we cover the period in which aid should have become more poverty and policy oriented according to the public announcements made by several donors (see Section II).

1. Total Bilateral and Multilateral Aid

In addition to comparing the behavior of all bilateral donors and all multilateral agencies, we present separate estimates for aid from IDA. This is not only because IDA represents the most important multilateral aid agency, accounting for about 30 per cent of total multilateral aid disbursements in 2003, but also

because Dollar and Levin (2004) found IDA aid to be particularly well targeted to poor countries with favorable local conditions.

As concerns the poverty orientation of aid, the estimates presented in Table 1 do not support the view that multilateral aid is superior to bilateral aid. If anything, there is weak evidence in favor of the opposite view. Taking the per-capita income of recipients as the usual proxy of recipient need, we find that poorer countries get clearly more aid from both bilateral and multilateral donors. Almost all coefficients of per-capita income are significantly negative at the 1 per cent level. With the size of the coefficients varying between –0.02 and –0.06, an increase in per-capita income by US$ 1000 would, on average, reduce aid disbursements by US$ 40 million.

Likewise, there is little difference between bilateral and multilateral donors with regard to the two dummies included in our estimates. The colonial dummy remains insignificant without exception. This indicates that former colonial powers did not, or were not able to, influence the allocative behavior of all bilateral donors taken together or that of multilateral agencies. Post-conflict resolution did not result in higher multilateral aid throughout the period under consideration, while bilateral donors provided more aid to post-conflict countries only in 2002. For this year, however, our results suggest that countries eligible for PCF grants received on average the impressive amount of US$ 132 million more in bilateral aid than those not eligible.

Both bilateral and multilateral donors directed significantly more aid to well governed recipients if the CPIA is applied as a measure of the quality of local conditions. All coefficients of the CPIA variable are significantly positive at the 5 per cent level or better. The policy orientation of bilateral donors appears to have strengthened over time. In 2002, a country grading up from, say, "three" to "four" in the CPIA ranking would, on average, have raised aid inflows by US\$ 75 million, compared to a mere US\$ 40 million in 1999. Furthermore, in contrast to Dollar and Levin (2004), we do not find the policy orientation of aid provided by IDA to be stronger than that of multilateral aid from other sources. This result is striking as donors other than IDA could be expected to have more reservations to accept the World Bank's CPIA as a guiding principle for allocating aid.

In addition to these minor discrepancies between bilateral and multilateral aid, there are also some pronounced differences. In particular, the exports of donor countries to recipient countries did not affect the allocation of multilateral aid, whereas the export-related self interest of DAC countries provided a fairly strong incentive to grant bilateral aid. In 2001, for example, 50 per cent higher average donor exports were associated with more than US\$ 30 million additional aid disbursements, which suggests a considerably stronger impact of commercial interests on aid than that found by Berthélemy and Tichit (2004) for the 1990s. In other words, the aforementioned poverty and policy orientation must not be misunderstood to imply that selfish motivations of bilateral aid are

no longer relevant. Rather, our empirical results support the reasoning in Section II that Dollar and Levine (2004) missed important determinants of aid in their estimation approach.

As expected, more populous recipients got more multilateral aid, but – strikingly – the coefficient for population turns out to be significantly negative in the case of bilateral aid. It has to be taken into account, however, that the inclusion of both donor exports and recipients' population in the Tobit model may pose problems of multicollinearity. Hence, we performed additional estimates, not reported here, in which we entered either the export variable or the population variable. Population then becomes positively related to bilateral aid, too, though less significantly so than to multilateral aid. The weaker relationship between bilateral aid and country size is largely due to the behavior of two major donors, France and the United States. France, in particular, exhibits an extremely strong small-country bias, rendering the simple correlation between total aid and recipients' population even slightly negative.

Subsequently, we check the robustness of these findings to changes in the measurement of local conditions for aid being effective as well as to changes in the sample of recipient countries. As indicated before, the World Bank's CPIA is publicly available only in rudimentary form for IDA eligible countries. By contrast, exact indicator values are accessible for the Kaufmann index on institutional conditions in essentially all recipient countries. The price to be paid

for the more precise information from Kaufmann et al. (2003) is that the coverage of the CPIA, which includes macroeconomic and structural policy parameters, is much broader (IDA 2003). Yet, the recent literature on the primacy of institutions for economic development (e.g., Rodrik and Subramanian 2003) renders it plausible to consider the Kaufmann index as an alternative measure to assess the developmental orientation of donors when allocating foreign aid.

In Table 2, we present the results for those determinants of aid that are of major interest in evaluating the allocative behavior of bilateral and multilateral donors.[10] The estimates are run for two different samples of recipient countries: (i) IDA eligible recipients as in Table 1, and (ii) the full sample of recipients for which the Kaufmann index and other required data are available.[11] Hence, it can be identified whether results that diverge from those reported before are due to the measurement of local conditions or the inclusion of relatively advanced recipient countries.

In some respects, the substitution of the CPIA for the Kaufmann index has little effect. This applies especially to the poverty orientation of aid. As before,

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[10] The results for variables not reported in Table 2 are fairly similar to those shown in Table 1. Complete results are available upon request.

[11] We do not present estimates of IDA's aid for the full sample, since more advanced developing countries do not get aid from this source by definition.

almost all coefficients of the per-capita income variable are significantly negative.[12] Furthermore, the view that multilateral aid is better targeted to poor recipients is rejected once again. Nor do we find evidence indicating an intensified poverty orientation since 1998. As concerns the export variable, Table 2 underscores the differences between bilateral and multilateral donors. This is even though the export variable remains insignificant for bilateral donors when running the Tobit model for the full sample and including the population of recipients as a control. If population is dropped from the specification, the export variable turns significantly positive at the 5 per cent level or better for the full sample, too.[13]

The most striking result is that the policy orientation of both bilateral and multilateral donors is extremely weak when local conditions are measured by (the residuals of) the Kaufmann index. There are several possible reasons for the discrepancy between the two measures of local conditions. The CPIA may be applied as a guiding principle for allocating aid not only by IDA itself but also by other donors. As a matter of fact, the UK Department for International Development (DFID) has used since recently an aid allocation model which

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[12] The only exception is the insignificant coefficient in the estimate for multilateral aid to IDA eligible countries in 2002.

[13] By contrast, the export variable is, at best, weakly significant for multilateral donors if population is dropped in the estimate covering the full sample.

relies on the CPIA (and per-capita income of recipients).[14] Dollar and Levin (2004: 7) note that some donors explicitly follow allocation rules comprising the CPIA, which is, for example, true for the African Development Bank (McGillivray 2003). On the other hand, the classification of recipient countries into quintiles may have as a result that the policy orientation of aid is overstated when applying the CPIA measure. In contrast to what one might expect, the variance of the more precise CPIA index values appears to be much smaller than the range from "one" to "five" for the quintiles suggests. According to IDA (2003), which reports the average index values for the quintiles in 2002, countries with a very poor rating were assigned an average CPIA of 2.57, while countries with a very good rating had an average CPIA of 3.69. Dollar and Levin (2004) state that the standard deviation of the CPIA across developing countries is just about 20 per cent.

In any case, our results reveal that the policy orientation of foreign aid strongly depends on how local conditions are measured. Considering the widespread belief that institutions matter most for economic development, the extremely weak results we get for the Kaufmann index suggest that the allocation of aid leaves much to be desired in order to render foreign aid an effective means to stimulate the development of recipient countries. Compared to the measurement

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[14] We owe this information to John Burton from DFID, whom we would like to thank for comments and suggestions related to an earlier paper.

of local conditions, the composition of the sample has relatively little effect. The results for multilateral aid in Table 2 are not affected when running the estimate for the full sample instead of the sub-sample of IDA eligible countries. As concerns bilateral donors, the impact of the Kaufmann index on aid allocation across IDA eligible countries in 1998 becomes insignificant for the full sample of recipient countries.

2. Bilateral Aid of Major Donors

The same set of estimates is performed for individual bilateral donors. To keep the presentation within reasonable limits, results reported in Tables 3 and 4 are restricted to the variables of particular interest in the present context.

Similar to earlier studies, we find that the poverty focus differs across bilateral donors. The coefficient of the per-capita income variable is consistently negative at the 5 per cent level or better for the three Scandinavian countries, Germany, the Netherlands and the United Kingdom. Even within this group, there are significant differences. Especially in the estimates run for the sample of IDA eligible countries (Table 3 and first half of Table 4), the United Kingdom stands out in that the coefficient of the per-capita income variable is clearly highest. An increase in per-capita income by US$ 1000 would, on average, reduce UK aid by more than US$ 10 million, compared to a drop of about US$ 3.5 million in

the Norwegian and Swedish case.[15] However, we find hardly any evidence supporting the claim of donors that the poverty focus of aid has been strengthened over time.

The poverty orientation of aid granted to IDA eligible recipients is weaker for the remaining three donors. This applies to Japan in particular.[16] In the case of France, the per-capita income of recipients did not have a significant impact on the allocation of aid in several years. No consistent pattern emerges for the United States.

The impact of per-capita income on aid allocation is essentially the same independently of whether the CPIA or the Kaufmann index is taken as a measure of local conditions. By contrast, the results are affected if the estimates are performed for the full sample of recipient countries instead of IDA eligible recipients only. The second half of Table 4 points to several notable changes. First of all, the coefficient of the per-capita income variable declines for all bilateral donors which were shown before to have a relatively strong poverty orientation. On the other hand, more favorable results are achieved for France

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[15] Relatively speaking, the impact is similar for aid granted by these three donors, as the overall aid budget of the United Kingdom is almost three times the aid budget of Norway and Sweden, respectively.

[16] Note that the two significant coefficients of the per-capita income variable reported for Japan in Table 3 turn insignificant when the Tobit model is estimated without the export variable.

and the United States. In 2002, the coefficient of per-capita income even turns out to be higher for the United States than for the United Kingdom. Hence, the differences in the poverty orientation across important bilateral donors are less pronounced when the sample is extended to include more advanced developing countries.

The donor-specific estimates underscore what has been said before on the policy orientation of aid. Recipients with a better CPIA classification typically got more aid, whereas the allocative behavior of donors was rarely related with the Kaufmann index. Yet, bilateral donors behaved differently:

- Similar to Dollar and Levin (2004), Table 3 reveals that the group of poverty oriented donors was also relatively policy oriented. The coefficient of the CPIA is consistently positive for exactly the same donors (the Scandinavian countries, Germany, the Netherlands, and the United Kingdom). Moreover, the United Kingdom again stands out within this group in that changes in the CPIA have the biggest impact on aid allocation, with an improvement by one mark in the CPIA ranking raising UK aid by US$ 6–11 million. As in the case of the per-capita income variable, the coefficients of the CPIA variable do not support the claim of an increasing policy orientation over time, except for the Netherlands and Sweden.

- The results for Japan and the United States are in conflict with Nunnenkamp et al. (2004), who found the share of aid granted to recipients with a

favorable CPIA rating to be highest for these two donors. Once other aid determinants are controlled for, the CPIA classification plays a minor role in shaping the allocation of US aid. In the case of Japan, the coefficient of the CPIA appears to be high, but this result is far from robust.[17]

- If the CPIA is replaced by the Kaufmann index, the aid allocation of most donors is, at best, weakly shaped by local conditions. For several donors, still poorer results are achieved when estimating the model for the full sample, rather than IDA eligible recipients only. Denmark represents a major exception. All coefficients of the Kaufmann index are highly significant for this donor, independently of the sample considered.[18]

The post-conflict dummy typically remains insignificant, particularly in earlier years.[19] Japan is an exception insofar as its allocation of aid was biased against

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[17] In addition to the insignificant coefficient for the year 2000, two of the remaining coefficients turn insignificant when the export variable is excluded from the specification of the model. What remains is the significant and high coefficient in 2002. Apart from the Netherlands and Sweden, it may thus be due to the large donor Japan that we found the policy orientation of total bilateral aid to have strengthened recently.

[18] The extension of the sample to more advanced developing countries has little effect as Denmark provides aid to a limited number of relatively poor countries. As a result, the number of left-censored observations is exceptionally high, especially when the full sample is considered.

[19] The post-conflict dummy is listed only in Table 3, as the results for this variable are hardly affected by changes in the measurement of local conditions and the sample of recipient countries. The same applies to the colonial dummy.

post-conflict countries. On the other hand, some donors, namely France, Sweden and the United States, appear to have adjusted their aid allocation recently to take into account that post-conflict resolution may require increased aid efforts. The United States is leading in this respect. According to the estimates run for the full sample, US aid to countries under post-conflict conditions has been increased significantly since 1998, with the extra amount rising from US\$ 12 to 27 million (not shown).[20] Considering that it is only since recently that aid is supposed to be an effective means of post-conflict resolution (Isenman and Ehrenpreis 2003), this needs-oriented motivation of aid can be expected to gain in importance in the future.

In contrast to the post-conflict dummy, the colonial dummy should have become less relevant if recipient need had increasingly shaped the allocation of aid. This is hardly the case, however. With just one exception (France in 2002), Table 3 shows that former colonies still received significantly more aid from France, the Netherlands and the United Kingdom. In the restricted sample, disbursements to former colonies exceed the average amounts given to other recipients by more than US\$ 20 million for France, by US\$ 25-45 million for the United Kingdom, and by an extraordinary US\$ 70–140 million for the Netherlands, which exhibit an extreme bias in favor of Indonesia. These quantities indicate that colonial ties

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[20] This is matched only by France in 2002.

still play a key, or perhaps even the dominant, role in former colonial powers' aid allocation. Moreover, the extra amounts involved do not reveal a declining trend since the late 1990s. This also holds if the estimates are run for the full sample. In addition, the estimates for the full sample include a dummy set equal to "one" for US aid to Egypt and Israel, in order to reflect the strategic interest of the United States in these two countries (not shown). This strategic interest remains a dominant factor in the allocation of US aid. In 2002, Egypt and Israel accounted for 13 per cent of total US aid.

Finally, trade interests continue to have an important impact on aid allocation by some bilateral donors. This applies especially to France and Japan. In the estimates for the full sample, French and Japanese aid was by US$ 4–8 million higher in 2000 and 2002 for recipients with twice as big a share in the total exports of these two donors. The coefficients of the export variable rise dramatically if the sample is restricted to IDA eligible recipients, but this is mainly because trade relations are less intense with these recipients, most of which are not only relatively poor but also relatively small.

Though less pronounced than for France and Japan, trade-related interests have also shaped the aid allocation of other donors, including donors which are often regarded as altruistic. For example, it is in striking contrast to Berthélemy (2005) that Denmark granted more aid in recent years to countries absorbing a higher share of its exports. To some extent, the same is true for Norway and the

United States (both for the restricted sample) as well as Germany (especially for the full sample). Results are not clear-cut for the United Kingdom: The export variable turns out to be insignificant if the estimates are based on the restricted sample of IDA eligible recipients. However, this result is sensitive to the specification of the Tobit model; the coefficient becomes significantly positive if population is dropped as a control. By contrast, the export variable remains insignificant for Dutch and Swedish aid, independently of how the model is specified and which sample is underlying the estimates. Hence, it is only for these two donors that it can safely be concluded that the allocation of aid was unaffected by selfish trade interests.

V. CONCLUDING REMARKS

In this paper, we performed a Tobit analysis of aid allocation that accounts for both altruistic and selfish motives on the part of donors. We first compared the allocative behavior of all bilateral donors taken together with that of multilateral aid agencies, and then looked at nine major bilateral donors individually. It turned out that poorer countries get clearly more aid from both bilateral and multilateral donors, with the possible exception of France and Japan. This is very much in line with what Dollar and Levin (2004) found in their recent study. In contrast to Dollar and Levin, however, our estimates do neither suggest that multilateral aid is better targeted to poor countries than bilateral aid, nor that IDA performs particularly well within the group of multilateral donors.

A more differentiated picture emerges when it comes to the policy orientation of foreign aid. Empirical findings strongly depend on how local conditions are measured. If the World Bank's CPIA is taken as an indicator of governance in recipient countries, the result is that both bilateral and multilateral donors directed significantly more aid to well governed recipients. The group of poverty oriented bilateral donors also turns out to be relatively policy oriented. Again, our estimates do not support Dollar and Levin's conclusion that multilateral donors perform better than bilateral donors, and that the policy orientation of aid provided by IDA is stronger than that of multilateral aid from other sources. If the CPIA is replaced by the Kaufmann index, the policy orientation of aid becomes extremely weak, with a few notable exceptions such as Denmark.

Post-conflict resolution, the third altruistic motive considered here, emerges as a significant determinant of aid allocation only in 2002, driven by France, Sweden and the United States. Given that the prospect of higher aid effectiveness in post-conflict situations has only recently been recognized, this needs-oriented motivation of aid can be expected to gain in importance in the future.

The importance of selfish aid motives clearly differs between bilateral and multilateral donors. Our results provide no indication that donor countries were able to push through their individual trade and political interests at the multilateral level. By contrast, the export-related self interest of DAC countries provided a fairly strong incentive to grant bilateral aid. This applies especially to

France and Japan, but export interests have also shaped the aid allocation of donors often regarded as altruistic. It is only for the Netherlands and Sweden that export interests did not at all affect the allocation of aid. Furthermore, colonial ties still play a key role in the aid allocation of former colonial powers.

Taken together, our findings lead to the conclusion that the allocation of aid still leaves much to be desired. The current focus in the political arena on providing more aid in order to help achieve the Millennium Development Goals tends to ignore that such a move might have minor effects on poverty and international income disparities unless major donors such as France and Japan become more poverty and policy oriented and put less weight on their self-interest in providing aid.

As for future research priorities, the most promising next step would be to perform a more disaggregated analysis. This is equally true for the aid and the governance variable. Roodman (2004) argues, for instance, that the motives behind project and program aid might differ. While the former would tend to be given to less well-governed recipients under strict surveillance by donors, the latter would, at least in principle, be tilted in favor of well-governed recipients and involve less external control. With respect to governance, donors might be more inclined to base their decisions on specific issues such as corruption, the rule of law, or democracy than on fairly complex summary measures. The potential value added of disaggregating aid flows and governance indicators is

not confined to getting a better understanding of how aid is actually allocated. As a recent paper by Clemens et al. (2004) illustrates, a careful distinction between different aid categories might also shed new light on the issue of whether aid is effective in raising growth rates, which would in turn inform the discussion about optimal disbursements. In the same vein, disaggregating the conventional governance indicators might reveal that some of their components are more conducive to aid effectiveness than others.

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Table 1 —   Tobit Model Results for Total Bilateral Aid and Multilateral Aid: IDA Eligible Recipients with CPIA Classification[a]

Donors	Population	Donor exports	Colonial dummy	Post-conflict dummy	Per-capita income	CPIA	Uncen-sored obser-vations	Pseudo R²
All DAC countries								
1999	-1.51	116819	59.0	-20.3	-0.044	40.0	66	0.09
	(-5.51)***	(10.33)***	(1.38)	(-0.47)	(-3.23)***	(2.81)***		
2000	-1.38	98697	45.4	-31.4	-0.052	44.5	66	0.06
	(-4.47)***	(7.36)***	(0.99)	(-0.67)	(-3.55)***	(2.84)***		
2001	-0.56	68684	73.8	13.7	-0.053	61.1	66	0.06
	(-2.04)**	(5.86)***	(1.56)	(0.27)	(-3.31)***	(3.75)***		
2002	0.19	38538	25.0	131.8	-0.060	75.5	65	0.04
	(-0.60)	(2.81)***	(0.43)	(2.10)**	(-3.26)***	(3.84)***		
All multilateral agencies								
1999	0.51	371	19.7	-15.5	-0.041	40.9	66	0.06
	(3.05)***	(0.05)	(0.75)	(-0.58)	(-4.72)***	(4.70)***		
2000	0.80	-5888	6.9	-7.6	-0.031	27.1	65	0.09
	(5.47)***	(-0.93)	(0.31)	(-0.34)	(-4.55)***	(3.66)***		
2001	0.64	-1048	1.5	-37.9	-0.051	38.4	65	0.06
	(3.44)***	(-0.13)	(0.04)	(-1.14)	(-4.34)***	(3.35)***		
2002	0.64	-7070	20.6	10.2	-0.041	39.2	65	0.03
	(2.64)**	(-0.68)	(0.47)	(0.22)	(-2.95)***	(2.62)**		
IDA								
1999	0.40	-1456	10.2	-22.9	-0.022	22.4	57	0.09
	(4.15)***	(-0.35)	(0.71)	(-1.61)	(-4.32)***	(4.61)***		
2000	0.65	-6691	6.6	-12.8	-0.020	17.4	60	0.14
	(8.41)***	(-2.01)**	(0.57)	(-1.10)	(-4.88)***	(4.33)***		
2001	0.45	-2510	-0.8	-32.9	-0.027	25.9	60	0.07
	(4.29)***	(-0.55)	(-0.04)	(-1.76)*	(-3.93)***	(3.86)***		
2002	0.40	-4789	5.6	-6.0	-0.019	26.0	61	0.03
	(2.86)***	(-0.80)	(0.22)	(-0.22)	(-2.35)**	(2.37)**		

[a]t-values in parentheses; ***, **, * significant at 1 per cent, 5 per cent and 10 per cent level, respectively; constant term included , but not reported.

Source: Own calculations based on DAC online data.

Table 2 — Tobit Model Results for Total Bilateral Aid and Multilateral Aid:
            IDA Eligible Recipients and Full Sample with Kaufmann Index[a]

Donors	IDA sample			Full sample			
	Donor exports	Per-capita income	Kaufmann index	Donor exports[b]		Per-capita income	Kaufmann index
All DAC countries							
1998	31727	-0.0596	0.0490	624.4	*3753.0*	-0.0136	0.0220
	(6.02)***	(- 3.95)***	(2.69)***	(0.59)	*(3.45)***	(-2.64)***	(1.53)
2000	102314	-0.0496	0.0265	-333.4	*2096.1*	-0.0102	0.0108
	(7.31)***	(-2.94)***	(1.16)	(-0.31)	*(2.12)**	(-2.12)**	(0.74)
2002	46681	-0.0563	0.0529	59.2	*2384.1*	-0.0109	0.0019
	(3.18)***	(-2.30)**	(1.35)	(0.06)	*(2.52)**	(-1.72)*	(0.08)
All multilateral agencies							
1998	-3123.9	-0.0349	0.0204	-851.7	*1011.3*	-0.0101	0.0103
	(-0.84)	(-3.29)***	(1.59)	(-1.73)*	*(1.91)*	(-4.31)***	(1.57)
2000	-2394.5	-0.0319	0.0171	-736.5	*753.0*	-0.0076	0.0063
	(-0.36)	(-4.01)***	(1.58)	(-1.94)*	*(1.82)*	(-4.10)***	(1.12)
2002	-3360.3	-0.0267	-0.0120	-689.0	*459.6*	-0.0086	-0.0060
	(-0.31)	(-1.48)	(-0.42)	(-1.04)	*(0.76)*	(-1.95)*	(-0.39)
IDA							
1998	-3979.4	-0.0148	0.0070				
	(-1.83)*	(-2.90)***	(1.14)	—		—	—
2000	-4357.5	-0.0205	0.0136				
	(-1.23)	(-4.39)***	(2.27)**	—		—	—
2002	-2813.7	-0.0114	-0.0078				
	(-0.45)	(-1.11)	(-0.47)	—		—	—

[a]t-values in parentheses; ***, **, * significant at 1 per cent, 5 per cent and 10 per cent level, respectively; see text for complete specification of the Tobit model. — [b]In italics: results from alternative specification without population as an independent variable.

Source: Own calculations based on DAC online data.

Table 3 — Tobit Model Results for Selected Bilateral Donors: IDA Eligible Recipients with CPIA Classification[a]

Donors	Donor exports	Colonial dummy	Post-conflict dummy	Per-capita income	CPIA	Uncen-sored obser-vations	Pseudo R²
Denmark							
1999	1690.9 (2.42)**	—	-1.78 (-0.58)	-0.0061 (-4.09)***	4.28 (3.84)***	44	0.08
2000	2713.3 (2.81)***	—	-0.95 (-0.33)	-0.0050 (-3.92)***	3.75 (3.65)***	42	0.08
2001	1802.1 (2.09)**	—	-0.94 (-0.30)	-0.0061 (-4.10)***	4.06 (3.76)***	43	0.07
2002	736.7 (1.24)	—	0.21 (0.07)	-0.0051 (-4.16)***	4.84 (4.58)***	47	0.07
France							
1999	8832.7 (10.48)***	20.77 (3.81)***	-2.96 (-0.61)	-0.0022 (-1.28)	2.87 (1.72)*	60	0.16
2000	6598.4 (9.52)***	23.17 (5.39)***	-2.94 (-0.76)	-0.0028 (-2.09)**	3.84 (2.80)***	60	0.18
2001	4767.4 (10.05)***	20.72 (7.15)***	-0.45 (-0.16)	-0.0025 (-2.44)**	2.56 (2.64)***	58	0.20
2002	10559.0 (4.26)***	6.03 (0.43)	37.98 (2.88)***	-0.0041 (-0.95)	6.69 (1.51)	59	0.05
Germany							
1999	-486.6 (-0.49)	—	-5.37 (-1.22)	-0.0077 (-5.16)***	6.12 (4.26)***	63	0.06
2000	-252.7 (-0.21)	—	-2.74 (-0.68)	-0.0054 (-4.10)***	3.60 (2.67)***	64	0.03
2001	655.4 (0.66)	—	0.64 (0.20)	-0.0046 (-4.19)***	4.27 (3.94)***	63	0.06
2002	4176.3 (2.95)***	—	7.58 (1.35)	-0.0060 (-3.28)***	6.11 (3.28)***	61	0.04
Japan							
1999	57513 (40.52)***	—	-18.79 (-1.74)*	-0.0075 (-2.11)**	7.11 (2.03)**	66	0.26
2000	33661 (13.67)***	—	-36.74 (-1.86)*	-0.0084 (-1.37)	5.52 (0.84)	64	0.12
2001	20793.0 (16.34)***	—	-19.57 (-1.48)	-0.0072 (-1.69)*	10.67 (2.45)**	64	0.17
2002	11698 (10.15)***	—	-14.90 (-1.21)	-0.0039 (-1.03)	9.19 (2.27)**	63	0.14
Netherlands							
1999	103.2 (0.29)	70.72 (8.34)***	-0.44 (-0.18)	-0.0054 (-4.69)***	4.16 (4.74)***	49	0.11
2000	140.3 (0.25)	136.35 (10.26)***	-1.31 (-0.35)	-0.0059 (-4.60)***	4.98 (4.07)***	54	0.11
2001	498.0 (0.67)	91.84 (5.04)***	-2.78 (-0.59)	-0.0058 (-3.54)***	5.21 (3.28)***	64	0.07
2002	-324.3 (-0.53)	94.22 (4.82)***	8.43 (1.50)	-0.0080 (-4.18)***	6.89 (3.66)***	61	0.07

Table 3 continued

Donors	Donor exports	Colonial dummy	Post-conflict dummy	Per-capita income	CPIA	Uncensored observations	Pseudo R²
Norway							
1999	1056.2	—	0.69	-0.0037	2.50	52	0.08
	(3.14)***		(0.40)	(-4.41)***	(4.00)***		
2000	870.5	—	0.74	-0.0026	1.52	54	0.06
	(1.65)*		(0.50)	(-4.02)***	(2.89)***		
2001	411.4	—	1.07	-0.0031	2.19	54	0.07
	(2.05)**		(0.71)	(-4.51)***	(4.02)***		
2002	809.2	—	2.48	-0.0040	3.20	50	0.09
	(2.47)**		(1.43)	(-4.99)***	(4.85)***		
Sweden							
1999	488.1	—	2.37	-0.0032	2.11	51	0.05
	(1.19)		(1.15)	(-3.47)***	(2.89)***		
2000	717.8	—	1.32	-0.0038	2.76	54	0.05
	(0.91)		(0.57)	(-3.81)***	(3.34)***		
2001	315.6	—	1.10	-0.0032	2.71	50	0.05
	(0.59)		(0.51)	(-3.62)***	(3.62)***		
2002	-141.4	—	4.30	-0.0040	3.57	52	0.08
	(-0.48)		(2.08)**	(-4.53)***	(4.93)***		
United Kingdom							
1999	297.2	24.20	1.76	-0.0088	5.61	58	0.11
	(0.29)	(5.14)***	(0.37)	(-5.31)***	(3.62)***		
2000	-1324.4	40.74	10.57	-0.0138	10.12	58	0.11
	(-0.98)	(6.19)***	(1.59)	(-6.08)***	(4.44)***		
2001	-1677.7	32.49	13.22	-0.0150	11.02	56	0.07
	(-0.97)	(4.14)***	(1.62)	(-5.05)***	(3.95)***		
2002	18.9	25.38	5.33	-0.0092	6.94	56	0.18
	(0.02)	(4.89)***	(0.99)	(-4.96)***	(3.77)***		
United States							
1999	9793.2	—	6.37	-0.0059	3.72	63	0.04
	(4.51)***		(0.95)	(-2.56)***	(1.69)*		
2000	13313	—	12.14	-0.0068	5.70	65	0.06
	(5.55)***		(1.72)*	(-3.07)***	(2.39)**		
2001	14163	—	-2.22	-0.0080	6.43	63	0.01
	(2.12)**		(-0.12)	(-1.28)	(1.02)		
2002	12256	—	22.78	-0.0101	8.18	61	0.04
	(3.52)***		(2.17)**	(-2.95)***	(2.34)**		

[a] t-values in parentheses; ***, **, * significant at 1 per cent, 5 per cent and 10 per cent level, respectively; constant term and population included, but not reported.

Source: Own calculations based on DAC online data.

Table 4 —   Tobit Model Results for Selected Bilateral Donors: IDA Eligible Recipients and Full Sample with Kaufmann Index[a]

Donors	IDA sample			Full sample		
	Donor exports	Per-capita income	Kaufmann index	Donor exports	Per-capita income	Kaufmann index
Denmark						
1998	591.7	-0.0067	0.0041	139.8	-0.0020	0.0025
	(1.56)	(-4.02)***	(2.86)***	(2.02)**	(-5.22)***	(3.46)***
2000	3272.8	-0.0051	0.0039	141.5	-0.0019	0.0021
	(3.09)***	(-3.55)***	(2.53)**	(1.93)*	(-5.09)***	(3.18)***
2002	1407.7	-0.0060	0.0061	210.5	-0.0021	0.0030
	(2.16)**	(-3.76)***	(2.69)***	(2.42)**	(-4.98)***	(3.00)***
France						
1998	4558.0	-0.0035	0.0025	1320.6	-0.0023	0.0015
	(6.12)***	(-1.83)*	(1.12)	(6.18)***	(-3.13)***	(0.76)
2000	6988.4	-0.0031	0.0040	877.9	-0.0016	0.0020
	(10.10)***	(-2.10)**	(2.08)**	(5.15)***	(-2.96)***	(1.19)
2002	10937.5	-0.0052	0.0097	869.1	-0.0014	0.0021
	(4.31)***	(-0.97)	(1.16)	(2.49)**	(-1.09)	(0.46)
Germany						
1998	4957.1	-0.0123	0.0092	297.8	-0.0023	0.0031
	(7.75)***	(-4.91)***	(3.52)***	(1.97)**	(-3.66)***	(1.72)*
2000	51.2	-0.0059	0.0041	338.8	-0.0018	0.0013
	(0.04)	(-4.10)***	(2.15)**	(3.19)***	(-4.57)***	(1.11)
2002	4508.9	-0.0063	0.0056	312.2	-0.0020	0.0016
	(3.05)***	(-2.67)***	(1.53)	(2.39)**	(-3.38)***	(0.80)
Japan						
1998	11446	-0.0061	0.0037	1482.6	-0.0052	0.0035
	(10.44)***	(-1.05)	(0.52)	(4.72)***	(-2.71)***	(0.63)
2000	33846	-0.0079	0.0021	1080.7	-0.0041	0.0006
	(13.45)***	(-1.15)	(0.23)	(2.40)**	(-1.78)*	(0.08)
2002	11960	-0.0004	-0.0019	660.4	-0.0028	0.0013
	(10.04)***	(-0.09)	(-0.25)	(2.78)***	(-1.77)*	(0.21)
Netherlands						
1998	1013.8	-0.0050	0.0047	147.8	-0.0019	0.0025
	(1.47)	(-3.68)***	(2.95)***	(1.70)*	(-5.55)***	(3.06)***
2000	251.6	-0.0056	0.0031	134.3	-0.0019	0.0019
	(0.41)	(-3.73)***	(1.68)*	(1.55)	(-4.80)***	(2.26)**
2002	-498.1	-0.0065	0.0016	28.6	-0.0010	-0.0002
	(-0.75)	(-2.61)***	(0.42)	(0.20)	(-1.85)*	(-0.10)
Norway						
1998	1798.9	-0.0040	0.0018	20.6	-0.0011	0.0012
	(2.91)***	(-4.02)***	(2.11)**	(0.45)	(-4.80)***	(2.71)***
2000	1094.9	-0.0024	0.0008	-11.0	-0.0004	0.0002
	(1.97)**	(-3.39)***	(1.05)	(-0.42)	(-3.60)***	(0.53)
2002	569.4	-0.0037	0.0019	10.7	-0.0008	0.0004
	(1.47)	(-3.60)***	(1.35)	(0.27)	(-3.40)***	(0.65)
Sweden						
1998	102.9	-0.0031	0.0013	48.2	-0.0009	0.0010
	(0.51)	(-2.93)***	(1.28)	(1.12)	(-4.08)***	(1.99)**
2000	933.5	-0.0034	0.0013	15.5	-0.0008	0.0008
	(1.10)	(-3.03)***	(1.09)	(0.40)	(-3.74)***	(1.33)
2002	56.0	-0.0040	0.0026	32.1	-0.0008	0.0008
	(0.17)	(-3.48)***	(1.75)*	(0.65)	(-3.40)***	(1.07)
United Kingdom						
1998	676.4	-0.0090	0.0036	200.5	-0.0019	0.0028
	(0.69)	(-4.48)***	(1.58)	(1.98)**	(-3.93)***	(2.26)**
2000	-1469.7	-0.0121	0.0034	292.9	-0.0028	0.0034
	(-0.99)	(-4.53)***	(0.99)	(1.62)	(-3.94)***	(1.90)*
2002	-615.9	-0.0090	0.0033	345.2	-0.0028	0.0032
	(-0.65)	(-3.79)***	(0.92)	(1.70)*	(-3.25)***	(1.25)
United States						
1998	2025.4	-0.0046	0.0036	-2.4	-0.0019	0.0021
	(1.96)**	(-2.76)***	(1.85)*	(-0.03)	(-2.30)**	(0.96)
2000	14045.7	-0.0061	0.0020	49.8	-0.0026	0.0006
	(5.71)***	(-2.39)**	(0.59)	(0.51)	(-2.81)***	(0.23)
2002	13271.2	-0.0071	-0.0029	194.9	-0.0038	-0.0040
	(3.68)***	(-1.66)*	(-0.43)	(1.48)	(-2.25)**	(-0.71)

[a]t-values in parentheses; ***, **, * significant at 1 per cent, 5 per cent and 10 per cent level, respectively; see text for complete specification of the Tobit model.

Source: Own calculations based on DAC online data.

Appendix: Data and Sources

Variable	Description	Source
Aid	Net disbursements of official development assistance, without emergency relief; US$ million	http://www.oecd.org/dac/stats/statlinks
Colonial dummy	Set equal to "one" for former colonies of Belgium, France, the Netherlands and the United Kingdom	Information provided by Jean-Claude Berthélemy
CPIA	Country Policy and Institutional Assessment; classification of IDA eligible countries into quintiles, with "one" assigned to countries with least favorable policies and "five" assigned to those with most favorable policies	International Development Association http://siteresources.worldbank.org/IDA/Resources/QuintilesCPIA2003.pdf (and earlier versions)
Donor exports	Share of exports of donor country j to recipient country i in total exports of donor country j; per cent; lagged one year	IMF, Direction of Trade Statistics Yearbook, various issues
Kaufmann index	Estimated residuals from regressing GDP per capita on the summary index of institutional conditions in recipient countries	Own calculations based on Kaufmann et al. (2003)
Per-capita income	GDP per capita of recipient countries in purchasing power parities; current international US$	World Bank, World Development Indicators, CD-ROM
Population	Population of recipient countries; million	World Bank, World Development Indicators, CD-ROM
Post-conflict dummy	Set equal to "one" for recipient countries which received grants from the World Bank's Post Conflict Fund	http://wbln0018.worldbank.org/essd/sdv/pcf.nsf/EHome?OpenView